BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, DC 20554

In the Matter of	)	
	)	
Establishing the Digital Opportunity Data Collection	)	WC Docket No. 19-195
	)	
	)	
Modernizing the FCC Form 477 Data Program	)	WC Docket No. 11-10
	)	

JOINT REPLY COMMENTS OF USTELECOM – THE BROADBAND ASSOCIATION, ITTA – THE VOICE OF AMERICA'S BROADBAND PROVIDERS AND THE WIRELESS INTERNET SERVICE PROVIDERS ASSOCIATION

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EXECUTIVE SUMMARY

The record overwhelmingly shows that broadband mapping needs more granularity and greater accuracy to create a clearer picture of broadband availability. We are pleased that the Commission has made big strides towards creating a method to collect more accurate and more granular broadband data that will better define the areas where broadband is available and where it is not.

The majority of commenters in this proceeding that support in some fashion the creation of a national Broadband Serviceable Location Fabric and recommend that it be integrated into the Commission's Digital Opportunity Data Collection. The Joint Commenters assert that the record in this proceeding and the data derived from the Joint Commenters' mapping Pilot provides more than ample evidence that the creation of a nationwide Fabric is not only scalable but will also improve the accuracy and granularity of broadband reporting. The initial nationwide Fabric should be created from licensed data sets so that the resulting Fabric contains high quality data and address concerns that the nationwide Fabric is cost-effective.

The Joint Commenters reassert their position that the Commission should adopt flexible rules for polygon creation that also provide for accurate and consistent reporting amongst broadband providers. One important way to do this is to require that polygon reporting is anchored to the Fabric, ensure that geocoordinates are harmonized across reporting. Suggestions that there is no need for guidelines in polygon reporting should be cast aside as counterproductive to the Commission's goals of improving granularity and accuracy in reporting.

The Commission should continue to focus its data collection on broadband availability. Including latency and pricing as part of the data collection would distract from the Commission's goal of determining where broadband is and would create substantial additional burdens that broadband providers, especially small providers, would need to incur in order to comply.

The Commission should carefully craft its public challenge process. The weight of the record supports a challenge process that emphasizes improving broadband coverage data and maps while minimizing the burdens on providers, as well as limiting USAC's role to a ministerial one. Additionally, the record supports that the ability to submit bulk challenge data be strictly limited to state, local, and Tribal governmental entities.

The record suggests that sunsetting Form 477 one year after the Fabric is established is a reasonable transition period. This is supported by near-universal agreement that requiring Form 477 reporting will lack purpose once the new data collection is in place.

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USTelecom – The Broadband Association ("USTelecom"), ITTA – The Voice of America's Broadband Providers ("ITTA") and the Wireless Internet Service Providers Association ("WISPA") (collectively, the "Joint Commenters") hereby submit their joint reply comments in response to initial comments filed with the Federal Communications Commission ("FCC" or "Commission") in the above-captioned proceeding.[1]

I. INTRODUCTION

The record overwhelmingly shows that broadband mapping needs greater accuracy and more granularity to create a clearer picture of broadband availability. The Joint Commenters are pleased that the majority of commenters support in some fashion the creation of a national Broadband Serviceable Location Fabric ("Fabric"),[2] and that it be integrated into the Digital

[1] *Digital Opportunity Data Collection*, Report and Order and Second Further Notice of Proposed Rulemaking, WC Docket Nos. 19-195 and 10-90, FCC 19-79 (rel. Aug. 6, 2019) ("*R&O"* and *"2nd FNPRM*").

[2] *See* Comments of GVNW at 6-7; Comments of NRECA at 4-5; Comments of the App Association at 7-8; Comments of Alaska Communications 13-17; Comments of Connected Nation at 3 & 8-9; Comments of Verizon at 7-8; Comments of WTA at 5; Comments of the West Virginia Broadband Enhancement

Opportunity Data Collection ("DODC") as proposed by the Commission.[3] However, some commenters persist in mischaracterizing the results of the Mapping Pilot and others misunderstand the Fabric's purpose and/or the process for its implementation. The Joint Commenters seek to correct those assertions here.

The Joint Commenters also provide greater clarity on how polygons can be integrated into the Fabric and refute suggestions that do not serve the purpose of more accurate and granular reporting of broadband availability. We recommend that the Commission adopt "safe harbors" as well as speed tiers to help inform polygons for fixed services to reflect real-world deployments.

The Joint Commenters strongly oppose the inclusion of latency and pricing as part of the data collection. Neither is relevant to reporting broadband *availability*. Those commenters suggesting that providers report this information fail to assess the costs or weigh them against whatever benefits might stem from the substantial additional burdens that broadband providers, especially small providers, would need to incur in order to comply.

A number of the commenters addressing the *2nd FNPRM*'s proposed public challenge process agree with the Joint Commenters that a crowdsourcing mechanism with meaningful checks to ensure bona fide challenges, and that emphasizes improving broadband coverage data and maps while limiting the burdens on providers, may help to further verify the validity of broadband deployment data. There are numerous worthwhile proposals that the Commission should mine from the record regarding the data USAC should collect for the public challenge process. In furtherance of the Commission's public challenge process objectives, however, it should limit to state, local, and Tribal governmental entities eligibility to submit bulk challenges.

Council at 4-5; Comments of Illinois Department of Innovation & Technology at 6; Comments of the California Public Utilities Commission at 2; Comments of Alexicon at 7.

[3] *See 2nd FNPRM* at ¶ 101.

Further, the Commission should reserve a provider challenge processes – if one is to be utilized at all – for contouring actual Universal Service Fund ("USF") funding commitments based on broadband coverage data rather than shaping the data itself.

II. A NATIONAL BROADBAND SERVICEABLE LOCATION FABRIC SHOULD BE ADOPTED AND SERVE AS THE FOUNDATION FOR FIXED BROADBAND DATA REPORTING

A. The Record Demonstrates That A Nationwide Fabric Is Scalable And Will Improve The Accuracy And Granularity Of Broadband Reporting

A broad and diverse consensus agree that the Commission should implement the nationwide Fabric as proposed by the Joint Commenters.[4] We agree with Connected Nation that the Commission should create the Fabric as soon as possible, and that creating a common dataset of locations nationwide—on which broadband service availability polygons can be overlaid—will aid service providers in scrutinizing their own polygons prior to submission.[5] Most importantly, "[t]he creation of such a dataset is important because its purpose is to accurately geolocate structures…so that it can be determined if a location falls inside or outside the boundaries of a given service availability polygon."[6]

The Pilot Proves the Feasibility of the Fabric. Some commenters argue that there is still not enough information about the Fabric in order for the Commission to implement it in the near future. In particular, NCTA states that "far more information is needed before the Commission and USAC should move forward with the selection of a contractor to create such a tool."[7] We strongly disagree. The Joint Commenters have provided a wealth of evidence to the Commission

[4] *See, e.g.,* Comments of GVNW at 6-7; Comments of NRECA at 4-5; Comments of the App Association at 7-8; Comments of Alaska Communications 13-17; Comments of Connected Nation at 3 & 8-9; Comments of Verizon at 7-8; Comments of WTA at 5; Comments of the West Virginia Broadband Enhancement Council at 4-5; Comments of Illinois Department of Innovation & Technology at 6; Comments of the California Public Utilities Commission at 2; Comments of Alexicon at 7.
[5] *See* Comments of Connected Nation at 3.
[6] *See id.* at 8-9.
[7] *See* Comments of NCTA at 3-4.

about how to develop a useful location fabric. The data, contained in the *Pilot Report* and a variety of other *ex parte* filings, demonstrate not only the benefits, viability and affordability of a location-based proposal,[8] but also that the Joint Commenters were transparent about both the challenges that were presented by the data and how they were resolved.[9]

NCTA and ACA draw incorrect conclusions from the lessons learned in the Pilot as evidence that the Fabric is not ready to be done on a national scale.[10] It is important to remember that the Joint Commenter's Mapping Pilot was intended to be a proof-of-concept to identify existing mapping problems and try various datasets to increase reliability and confidence – not to create a perfect solution. Like any responsible proof-of-concept project, the Pilot should reveal not just the successes , but where challenges were faced and overcome. For example, the *Pilot Report* indicates that Fabric creation would have been easier with address data and parcel attribute normalization. These notes are representative of "a wish list" of items that could improve make the Fabric creation process,[11] but did not indicate that these hurdles could not be overcome or would somehow create burdens that would be borne by providers, as some suggest.[12] In fact, in sharing our results we specifically pointed to the essential use of the visual verification process to build confidence in the areas where the data is harder to interpret, and noted that those records were reviewed many times until the confidence in those records was

[8] *See* Letter from Jonathan Spalter, President & CEO, USTelecom – The Broadband Association, Genevieve Morelli, President, ITTA, Claude Aiken, President and CEO, WISPA to Marlene H. Dortch, Secretary, FCC, WC Docket Nos. 19-195, 11-10, 10-90 and accompanying "Broadband Mapping Initiative Proof of Concept Summary of Findings Report" (Aug. 20, 2019) ("*Pilot Report"*); *also see, e.g.,* Letter of B. Lynn Follansbee, VP–Law & Policy, USTelecom to Marlene H. Dortch, Secretary, FCC, WC Docket No. 11-10, (Oct. 17, 2018) (*USTelecom Oct. 17, 2018) Ex Parte*; *See USTelecom Aug. 22, 2019 Ex Parte*.

[9] *See Pilot Report* at 13.

[10] See Comments of NCTA at 3-4 and Comments of ACA at 15-16.

[11] *See Pilot Report* at 13.

[12] See Comments of NCTA at 3-4 and Comments of ACA at 15-16.

very high.[13] In order to support the Commission's understanding the visual review process so that it can be implemented nationwide we shared with Commission staff the decision tree that was used by the managed crowd in the Pilot's visual review process.[14]

It is also important to note that the results we've presented are sufficient for others to determine the feasibility of creating the Fabric. The Joint Commenters made a monetary investment in the process so that it could be utilized to demonstrate the feasibility of the Fabric nationwide, saving months of time if the Commission or their vendor had to start from scratch. Ironically, the top critics of the Fabric proposal now claim they don't have sufficient information after voluntarily opting not to participate in the Pilot despite repeated invitations. If they had, perhaps they would have had more first-hand insight and input into the process and many of the issues they seem to now have concerns about.

That said, as Alexicon rightly points out, there are additional challenges to creating the Fabric in Tribal areas as well as in Alaska.[15] Indeed, these challenges have always existed in the context of USF programs on Tribal lands and Alaska necessitating additional considerations.[16] It is well known that many of these areas do not have traditional addresses but because the Fabric process does not rely on addresses and is instead primarily based on identifying and geocoding structures it is particularly well suited to identifying serviceable locations in remote areas. We stated at the outset of our Pilot that the biggest challenges were in the most rural and remote areas (which often includes Tribal areas).[17] The Joint Commenters factored these challenges into

[13] *See USTelecom Aug. 22, 2019 Ex Parte*.
[14] *See USTelecom Aug. 22, 2019 Ex Parte*. [consider adding the decision tree as an appendix]
[15] *See* Comments of Alexicon at 8.
[16] *See e.g, Connect America Fund, Universal Service Reform – Mobility Fund, Connect America Fund – Alaska Plan*, Report and Order and Further Notice of Proposed Rulemaking 31 FCC Rcd 10139 (Aug. 23, 2016); *Connect America Fund*, Order on Reconsideration, 33 FCC Rcd 12813 (Dec. 20, 2018).
[17] *See* Letter from B. Lynn Follansbee, VP – Law & Policy, USTelecom – The Broadband Association, to Marlene H. Dortch, Secretary, FCC, WC Docket Nos. 19-195, 11-10, 10-90 (Mar. 21, 2019).

our assessment that in these areas additional visual verification and crowdsourcing would be a key to the Fabric's success.[18]

Proprietary Data Sources. The Joint Commenters support making the Fabric available for parties outside the government to view, but disagree with Connected Nation that that necessitates the Fabric being created entirely from open source datasets.[19] As we noted in our comments in this proceeding, "[c]reating the [Fabric] using proprietary data would result in a superior product at a lower estimated cost ($8.5-$11 million) and would allow for public viewing with the following caveat – while information on the location of broadband serviceable locations would be viewable, *the entire dataset* would *not* be available for download by the public."[20] Our Pilot showed that creating the Fabric from proprietary data would create a far better initial Fabric and that the use of completely open source data likely would double the cost, in part because it would require visual verification of more records in order to achieve the same level of confidence and accuracy.[21] Moreover, open source data would be more difficult to update because what exists does not have guaranteed regular updates. Given the limits of the open source data and the higher cost, the Joint Commenters support the Commission's creation of the nationwide Fabric using proprietary datasets. This would still allow the Fabric to be viewable by the public and available to the Commission and other government agencies as appropriate.[22] The App Association concurs in this approach, explaining that in its experience, both open source and proprietary data sources have varying advantages, but recommends that the Commission utilize

[18] *See id*; *see also, Pilot Report* at 13; *USTelecom Aug. 22, 2019 Ex Parte*.
[19] *See* Comments of Connected Nation at 9.
[20] *See* Comments of Joint Commenters at 12.
[21] *See Pilot Report* at 13; *see also,* Letter from B. Lynn Follansbee, VP – Policy & Advocacy, USTelecom – The Broadband Association, to Marlene H. Dortch, Secretary, FCC, WC Docket Nos. 19-195, 11-10, 10-90 (Aug. 22, 2019) *(USTelecom Aug. 22, 2019 Ex Parte)*.
[22] *See* Comments of the Joint Commenters at 12.

proprietary data to provide a cost-efficient and effective complement to open-source data.[23] It cites a recent study finding that using proprietary data could yield significant cost reductions for the Commission and increase its maps' accuracy.[24] The Joint Commenters believe the first priority should be to develop the Fabric as quickly and accurately as possible. Once that is done the issue of how to make the Fabric data more available or more open source can be explored.

B. The Commission Should Allow Reasonable Flexibility In Establishing Polygons To Accurately Portray Service Availability

In advocating for their shapefile/polygon approach to reporting, NCTA has provided little information or data about how the polygon process should be implemented. This lack of detail continues into this comment cycle, where NCTA provides no substantive guidance to respond to the Commission's request for information about how polygons can be created to provide consistency and reliability.[25] NCTA argues in its comments that there is no need for buffers or boundaries on polygons.[26] While we agree that there should be flexibility in how providers are allowed to form their polygons,[27] allowing completely free-form polygons creates too much room for inconsistent and inaccurate polygons. The Joint Commenters have put forth suggestions for a "safe harbor" form of polygon reporting of wireline availability[28] as well as the proposal that polygons be created in such a way that they are anchored to the Fabric using the same set of harmonized geocoordinates.[29] The creation and use of harmonized geocoordinates by developing the Fabric is what will enable consistent availability reporting.

[23] *See* Comments of the App Association at 7.
[24] *See id., citing*, CQU, *Broadband Mapping Initiative: Proof of Concept*, Presentation, Slide 13 (Aug. 2019). Available at https://ecfsapi.fcc.gov/file/1082010869365/UST%20BSLF%20PoC%20Findings%20-%20August%202019.pdf.
[25] *See 2nd FNPRM* at ¶ 79.
[26] *See* Comments of NCTA at 4-6.
[27] *See* Comments of Joint Commenters at 21-22.
[28] *See id.*
[29] *See id.* at 9.

NCTA states that "[m]erely increasing the *quantity* of data reported to the Commission is not the appropriate objective; it is critical that the Commission focus on the *quality* of data, its *relevance* to the goal of assessing and expanding broadband deployment, and the *ease* with which it can be incorporated into the Commission's decision-making process."[30] The Joint Commenters agree 100 percent. The fact that *quality* is important is precisely why the Fabric needs to be the foundation upon which reporting via polygons (or any other method) is overlaid. NCTA's assertion that there are plenty of currently available sources to get "a strong sense of the characteristics of most unserved areas"[31] under a polygon is directly counter to keeping *quality* as the focus of reporting. As the Joint Commenters have shown multiple times, the inconsistencies in commercial geocoding, coupled with the fact that there is no single source of available data showing broadband serviceable locations, is precisely why the Fabric is needed now.[32]

Furthermore, without any constraints around how a polygon is created, providers could continue to just draw their polygons around a census block, getting us nowhere closer to accessing real information about where broadband is available and where it is not. As NTCA rightly points out, "the even more granular data that the DODC will produce could still suffer from significant degrees of inaccuracy if there are no basic common technical standards underlying the method of reporting by providers using various technologies."[33] While "consistency is indeed the key to promoting accuracy,"[34] the parameters do not necessarily need to be as complex as NTCA sets forth. The creation of "safe harbor" buffers around polygons based on the technology utilized in conjunction with our proposal to anchor the polygons to the

[30] *See* Comments of NCTA at 2.
[31] *See id.* at 17-18.
[32] See e.g., *USTelecom Oct. 17, 2018 Ex Parte.*
[33] *See* Comments of NTCA at i & 2-5.
[34] *See id.* at 2.

Fabric via the same geocoding methodology[35] will create the needed consistency so that there is the desired apples-to-apples effect which NTCA[36] and the Joint Commenters support. The Joint Commenters have demonstrated in numerous filings that one of the key problems the Fabric helps to solve is inconsistent commercial geocoded data.[37]

The Commission asked what additional "steps [it] can take to improve the quality of fixed broadband coverage polygons while minimizing the associated reporting burdens."[38] As proposed by Alaska Communications,[39] the Joint Commenters agree it could be reasonable for, the Commission to require reporting by established speed tiers, like those used in the CAF Phase II auction for purposes of consolidating all broadband technologies that meet a given speed tier into a single polygon. The Joint Commenters support Alaska Communications' suggestion to utilize a concise set of speed tiers where technologies are broadly consolidated.[40] We agree that there is support for this methodology in Section 706(d), which requires the Commission to be technologically neutral,[41] as well as in the Commission's CAF Phase II proceeding in which the Commission emphasized the value of technological neutrality.[42]

[35] *See* Comments of Joint Commenters at 19-22*; see also, USTelecom Aug. 22, 2019 Ex Parte*; Letter from B. Lynn Follansbee, VP – Policy & Advocacy, USTelecom – The Broadband Association, to Marlene H. Dortch, Secretary, FCC, WC Docket Nos. 19-195, 11-10, 10-90 (May 28, 2019) *(USTelecom May 28, 2019 Ex Parte).*
[36] *See* NTCA Comments at 5.
[37] *See.eg.*, Comments of Joint Commenters at 37-38, *citing,* Letter from Mike Saperstein, Vice President, Policy & Advocacy, USTelecom, to Marlene Dortch, Secretary, FCC, WC Docket Nos. 10-90, 19-195, 11-10, at 1 (filed Sept. 4, 2019); *see also, USTelecom May 28, 2019 Ex Parte.*
[38] *See 2nd FNPRM* at ¶ 77.
[39] *See* Comments of Alaska Communications at 4-5.
[40] *See id.*
[41] *See* 7 U.S.C. §1302(d); *see also, Inquiry Concerning Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion*, GN Docket No. 18-238, 2019 Broadband Deployment Report, FCC 19-44, 34 FCC Rcd 3857 (2019).
[42] *See, e.g., Connect America Fund*, WC Docket No. 10-90, Report and Order, Declaratory Ruling, Order, Memorandum Opinion and Order, Seventh Order on Reconsideration, and Further Notice of Proposed Rulemaking, FCC 14-54, 29 FCC Rcd 7051 (2014), at ¶ 154.

In addition, the Commission should consider minimizing the impact of polygon reporting for enterprise business services. First, in no enterprise business services arrangement can a business request service and have service provided within 10 days due to length of time it takes to work through the often customized contract and provisioning processes. Second, these arrangements are currently confidential. Third, these customer locations are often non-contiguous. If polygons are required to be reported by specific technology and specific speed and then are overlaid on the Fabric, actual customer information and the details of those proprietary contractual arrangements would likely be disclosed.

C. Utilizing The Fabric As A Foundation For Reporting Is A Cost-Effective Way To Improve Accuracy

NCTA claims that the Joint Commenters have not provided any information how the cost estimates provided in the *Pilot Report* were determined.[43] We have reported that the costs were determined based on the cost of licensing the datasets required to create the Fabric, the labor to code the data and create the Fabric, and the anticipated degree of managed visual review to improve location or structure validation. In our Pilot process, for example, the Joint Commenters utilized a method that tested both to see the difference in accuracy and the cost of both open source versus proprietary data specifically to hone in on the cost differential as is reflected in the *Pilot Report*.[44] Also, as noted in the *Pilot Report*, one of the key drivers of the potential cost of the Fabric is the cost of the visual verification, the cost of which was 25 cents per record multiplied by the reported 140,000 records that were visually verified in the Pilot.[45] By extension to the nationwide Fabric, it is anticipated that 1.5 million structures would require

[43] See Comments of NCTA at 3-4.
[44] *See Pilot Report* at 13.
[45] *See Pilot Report* at 13; *also see* Letter from B. Lynn Follansbee, VP – Law & Policy, USTelecom – The Broadband Association, to Marlene H. Dortch, Secretary, FCC, WC Docket Nos. 19-195, 11-10, 10-90 (Mar. 21, 2019) (*USTelecom Mar. 21, 2019 Ex Parte)*.

visual verification.[46] NCTA has never shared any cost-related data regarding their more limited polygon approach.

ACA mentions the Fabric's costs, but its statement, "nowhere does the BMC indicate the cost to providers to create the proprietary location data,"[47] suggests it misunderstands the proposal. ACA seems to believe that providers will have to spend money to create the Fabric. That is simply incorrect. The entire concept from the beginning has been that the Commission or its designee would create the Fabric and providers would simply report on top of it, be it via polygons or other type of reporting.[48] No provider data is even required to create the Fabric. Given that the Commission has determined that reporting will be via polygons, the concern that ACA raises that, "the cost to implement such a collection is almost certainly substantial for the Commission and for providers that do not have to file High Cost Service Broadband ("HUBB") reports to make the fabric happen,"[49] is irrelevant, because the only cost borne by providers is the cost of reporting via polygons, which all reporting providers will have to do whether or not they are those currently reporting into the HUBB or not.[50]

ACA also expressed concern about the costs smaller providers could bear while creating their polygon.[51] The Fabric actually has the potential to make reporting by polygon substantially easier for all carriers. As Connected Nation correctly points outs, among the benefits of the Fabric is that it could enable providers "an option to report serviceability by location ID or street address if they prefer—from which a coverage polygon could be autogenerated."[52] This is one

[46] *See* Comments of Joint Commenters at 7.
[47] *See* Comments of ACA at 17.
[48] *See USTelecom Oct. 17, 2018 Ex Parte*.
[49] See Comments of ACA at 3.
[50] *See R&O* at ¶ 12.
[51] *See* Comments of ACA at 4.
[52] *See* Comments of Connected Nations at 3.

of the reasons the Commission should green light the nationwide Fabric as soon as possible so that it can ease the transition to polygon reporting.

NCTA also argues that the Fabric should be created only in rural areas because "there is insufficient evidence to conclude that such a tool can effectively compile and display data at all, much less in densely populated urban areas."[53] This is an absurd statement in the face of the Pilot results that clearly showed that the Fabric can "effectively compile and display" vast amounts of data and generate critically useful information. Furthermore, the cost to create the Fabric for all areas is not that much higher because the bulk of the cost of the Fabric is in writing the codes for the algorithms used in the processing of data, licensing the data used to create the Fabric, and visual verification. The data purchased is by state or county and is not readily divisible by urban and rural so there is no cost savings in separating urban from rural. There are no cost savings in separating a data set into two artificial segments the way NCTA suggests. The start-up costs of writing code to perform the machine-learning processes is the same regardless of how many records are used. And the process to define "rural" and to develop a new process to carve out urban holes would add another layer of complexity to the process. That there will likely need to be more visual verification in rural areas where the data is less robust illustrates the relative lower cost to map urban areas. There is no cost reason for limiting the Fabric and there is no policy reason to do so. If the Commission is going to create and gain access to a new tool for determining where broadband is and where it is not, why would the Commission want to stop at only one segment of the population?

Also, the Joint Commenters agree with Connected Nation that creation of the Fabric would enable the Commission and service providers to assess the accuracy of polygons "so that it can be determined if a given location falls inside or outside the boundaries of a given service

[53] *See* Comments of NCTA at 23.

availability polygon—eliminating potential ambiguity."[54] Such level accuracy is needed everywhere, not just in the rural areas. This is one of a multitude of reasons that the Joint Commenters and others[55] support the creation of the Fabric in parallel with establishing the polygon-based portal authorized in the *R&O*. We disagree with commenters that seem to imply that creation of the Fabric would delay implementation of polygon reporting.[56] We are confident that the Fabric can be created in both urban and rural areas at the same time that the polygon portal is being created. The best outcome would be to have the Fabric in place before the polygon reporting begins.

Connected2Fiber submits that creating the Fabric is simply unnecessary because its product, the Connected World application, in conjunction with establishing clear policy with instructions and a help desk, is somehow more than adequate to enable the industry to accomplish this reporting responsibility.[57] While their commercial offering may be a useful network planning tool for a certain subset of wireline providers, it does not provide a harmonized foundation upon which all providers, including satellite and fixed wireless, can uniformly and accurately report the critical metric of where broadband is available and where it is not.

The Joint Commenters proposal is a long-term solution to the nation's broadband mapping demands that will meet the needs of policymakers, American consumers, businesses, and broadband service providers.[58] It provides a foundation of all locations upon which providers can report their deployment. It is not just a tool for finding locations – it maps all broadband-serviceable locations (*e.g.*, houses, businesses, structures) while using a single

[54] See Comments of Connected Nation at 3.
[55] *See* Comments of GVNW at 7.
[56] *See e.g.*, Comments of NRECA at 4; Comments of ACA at 15; Comments of NCTA at 23.
[57] *See* Comments of Connected2Fiber at 2.
[58] *See USTelecom Oct. 17, 2018 Ex Parte*.

georeferenced methodology, and provides a standardized reference point for fixed broadband reporting.[59]

D. Polygon Reporting Deadlines Should Match Current FCC Form 477 Deadlines

The Joint Commenters agree with NCTA that the Commission should ensure that the polygon reporting deadline correspond with the semi-annual FCC Form 477 deadlines.[60] As we stated in our initial comments,[61] the burden of reporting via polygons is minimized by aligning these filing deadlines after the initial DODC reports are due, instead of requiring that "fixed providers […]submit updates within six months of completing new broadband deployments; making changes to (including upgrading or discontinuing) existing offerings; or otherwise acquiring new, or selling existing, broadband-capable network facilities that affect the data submitted on their DODC filings."[62] The *R&O* also requires that "[f]ilers must additionally certify on or before June 30 of each calendar year that as of December 31 of the previous year, all of the filer's service availability data continues to be accurate, taking into account the filer's data that has been updated during the calendar year."[63] These requirements assume that providers will be reporting data on an incremental basis to update information previously reported. This type of reporting is highly problematic for providers with large amounts of data to report, for whom reporting within six months of new deployments would leave them in the position of having to report on a nearly continual basis, leading to not only an increased burden for providers but also for USAC in having to accept a constant flow of new data. For smaller providers, the prospect of frequent updating would be daunting, diverting resources away from deployment and investment in their networks. Instead, providers should be permitted to simply

[59] *See* Comments of Joint Commenters at 4-5, *citing, USTelecom Mar. 21, 2019 Ex Parte*.
[60] *See* Comments of NCTA at 7-8.
[61] *See* Comments of Joint Commenters at 19-20.
[62] *See R&O* at ¶ 16.
[63] *See id.*

file new polygons (reflecting new builds and any changes) to fully replace the previously-reported polygons at the semi-annual Form 477 reporting intervals.

III. THE COMMISSION SHOULD NOT ARBITRARILY EXPAND THE SCOPE OF THE REPORTING REQUIREMENTS BEYOND WHAT IS CONTEMPLATED IN THE *2nd FNPRM* AND SUPPORTED IN THE RECORD

There is broad support in the record for the targeted reporting regime that the Commission proposed in the *2nd FNPRM*. Nonetheless, a few commenters persist in suggesting significant expansions in the scope of information collection to encompass additional data. The Commission should resist those invitations. The transition to a totally new granular broadband deployment reporting methodology is going to be challenging enough for providers, the FCC, and USAC. Even if the data was appropriate, which we do not believe it is, now is not the time to increase reporting burdens by expanding into other categories of information.

A. Imposing A Latency Data Reporting Requirement Would Produce No Material Benefit

In response to the Commission's query whether "latency levels" should be reported by fixed broadband providers, many commenters have weighed in against further consideration of such a requirement.[64] A number of sound reasons are offered to reject this additional reporting burden. At a basic level, latency is not relevant to broadband "deployment" at all, as GeoLinks points out,[65] but merely a subsidiary factor in perceived service quality.

It is also broadly agreed upon among these commenters that reporting latency data would, as Verizon notes, "impose significant burdens on providers and will provide little useful

[64] *See* Comments of Alaska Communications at 8-10; Comments of Connected2Fiber at 3-4; Comments of GeoLinks at 6; Comments of Hughes Network Systems at 6-7; Comments of NCTA at 6-7; Comments of Verizon at 4.
[65] *See* Comments of GeoLinks at 6.

information beyond what already is available."[66] In this regard, GeoLinks echoes significant concerns raised by the Joint Commenters that "[w]hile latency testing is required under CAF, CAF recipients are only required to test a subset of customers." Consequently, CAF recipients have "built the costs of such testing into their CAF auction bids, and are receiving high-cost support, in part, to undertake this testing."[67] While it may be appropriate to impose a latency reporting requirement in the limited CAF funding context, where the Commission is affirmatively subsidizing the cost of service deployment based on specific proposals to which recipients have committed and service providers can employ this funding to help meet their reporting obligations, it is quite a different, and unfunded, mandate to require such reporting from all broadband providers throughout the county on an undifferentiated basis regardless of size, location, or subsidy status.

A handful of commenters take a contrary view and support of requiring the submission of latency data but fail to provide any compelling basis for the Commission to impose such an additional burdensome requirement on broadband providers. Indeed, these supporters themselves appear somewhat uncertain regarding any immediate benefits to be gained from such a reporting obligation. For example, Next Century Cities et al. opine that "latency may become a more important benchmark" as technology evolves but avows that it is "unable to make detailed suggestions as to how [such] data should be collected."[68] Connected Nation observes that latency "should be an element of DODC reporting at some point in the future," but also correctly

[66] Comments of Verizon at 4; *see also* Comments of Alaska Communications at 8 ("such reporting would be burdensome, broadly unnecessary, and unjustifiable based on any small incremental benefit the information might yield"); Comments of NCTA at 6 (adding a latency data reporting requirement would "increase complexity and delay").
[67] Comments of GeoLinks at 6.
[68] *See* Comments of Next Century Cities et al. at 5.

observes that "measuring latency on a user-by-user basis is incredibly complex."[69] Because there is little demonstrated need, including latency in a reporting regime intended to ascertain broadband availability is misdirected. Accordingly, the Commission should reject the suggestion that adding a latency reporting requirement would enhance the utility of the DODC initiative.

B. Collecting Pricing Data Is Beyond The Scope Of This Proceeding, And The Commission Should Again Reject Including Such Information in DODC Reporting

A few commenters ask the Commission to impose an additional reporting obligation with respect to pricing data despite the fact that this issue was rejected in the Order and not even raised in the *2nd FNPRM*. In effect, they ask that the Commission broadly expand the reporting requirements with an attendant increase in unfunded costs and record-keeping burdens for businesses providing broadband service. Given the significance of such a potential change in the scope and purpose of the DODC program, the proponents have a high hurdle to clear in making a case for the suggested expansion – and they fall well short of clearing it.

Those who advocate for a broadband price data reporting requirement say that a comprehensive national database of broadband pricing information would be a useful tool for academic and public interest researchers.[70] That may be so, but the advocates of this approach fail to address why the Commission should bog down its already significant data improvement plans with such a large quantity of disparate and complex data unrelated to the objective of determining where broadband is available. Now is not the time for that.

[69] *See* Comments of Connected Nation at 6.
[70] *See* Comments of Free Press at 8-13; Comments of Next Century Cities et al. at 7.

C. Broadband Service Providers Should Not Be Penalized For Data Discrepancies Absent Evidence of Negligence or Willful Misreporting

The Joint Commenters stated that "the Commission should not implement a reporting regime that penalizes reporting entities for errors in their data unless it is demonstrated that such errors are the result of willful misrepresentation or repeated negligence in the gathering or presentation of data."[71] A number of commenters agreed with this approach. For example, ACA suggests that "the Commission should establish an education and compliance regime that includes, among other things, working with associations like ACA Connects to educate providers, giving sufficient time for providers to file their initial reports (including by accepting informal requests for extensions), *and permitting providers to fix errors without penalty, except where the provider's errors are intentional and persistent*."[72] Similarly, NTCA recommends that "[w]hen errors are identified, the Commission should focus on correcting data so that its future maps are as accurate as possible, not punishing providers for good-faith mistakes."[73] Alaska Communications supports a regulatory approach in which "[n]either the Commission nor USAC should exercise any enforcement authority to impose compliance penalties when reporting entities are attempting in good faith to file accurate and timely information and promptly update it when they become aware of errors."[74] Alexicon observed that "reporting broadband deployment, especially under the Commission's new polygon file-based system, *subject to a reasonable margin of error* will provide for a reasonable balance between burden (cost) and accuracy."[75]

[71] *See* Comments of Joint Commenters at 23.
[72] *See* Comments of ACA at 8 (emphasis added). *See also* Comments of State of Colorado at 8 ("pervasive" errors should be subject to enforcement action); Comments of Connected2Fiber at 5 (acknowledging difference between intentional and unintentional errors).
[73] Comments of ACA at 5.
[74] *See* Comments of Alaska Communications at 11.
[75] *See* Comments of Alexicon at 4 (emphasis added).

Next Century Cities et al. suggest that the Commission adopt a rather complicated process in which providers "should have warnings, particularly in the early years for unintentional errors of coverage, followed by an escalating series of fines or other sanctions for continued errors, up to being ruled ineligible to receive subsidies from programs run by the Commission."[76] Next Century Cities et al. then proceed to propose a series of "error thresholds" that ratchet up over time and based on the number and proportionality of the errors. Although well-intentioned and somewhat consistent with the approach urged by the Joint Commenters, the Next Century Cities et al. proposal appears to be overly strict. The Joint Commenters agree that if the Commission adopts a plan similar to the one Next Century Cities et al. advocate, small providers should be afforded leniency with respect to error correction.[77]

The Commission should reject proposals that would impose sanctions for any errors, regardless of the degree of the mistake, the basis for the error, or when it is made. The City of New York would make no distinction between intentional errors or unintentional errors irrespective of their degree: it suggests "the Commission should penalize providers for reporting errors, whether intentional or not."[78] Free Press "strongly urge[s] the Commission to adopt penalties for submitting inaccurate data, which should be particularly severe for 'chronic filers of bad data.' If it does not, it will simply incentivize lazy data submissions, which would threaten the integrity of the entire database."[79] Under these proposals, it would seem that the submission of *any* inaccurate data, no matter how insignificant or infinitesimal it may be, would be sanctionable, even if it were to occur with the very first new portal filing when many providers may not have become accustomed to reporting methodologies. In effect, the City of New York

[76] *See* Comments of Next Century Cities at 5.
[77] *See id.* at 6.
[78] *See* Comments of City of New York Comments at 3.
[79] *See* Comments of Free Press at 21 fn.40.

and Free Press would treat a parking violation for a new driver as if it were a felony, even if no one was harmed. That approach would create an overly harsh environment of mistrust and suspicion, not one conducive to driving greater accuracy and granularity in broadband availability reporting.

In sum, the creation of the Fabric and reporting polygons is the first and most important step towards creating accurate and granular broadband maps. It should be followed by USAC verification, crowdsourcing and an opportunity for error correction, and should not be a "gotcha" process that punishes errors at the outset, regardless of whether they are unintentional, statistically relevant, or lack impact. To quote NTCA, "as a complement to the challenge process described above that would be conducted specifically as part of and prior to any significant policy decisions, the crowdsourced data and the corrections it will spur should serve as an ongoing process to help identify and evaluate trends in coverage reports."[80]

IV. THE COMMISSION SHOULD CAREFULLY CRAFT ITS PUBLIC CHALLENGE PROCESS

A number of the commenters addressing the *2nd FNPRM*'s proposed public challenge process agree with the Joint Commenters that a crowdsourcing mechanism with meaningful checks to ensure bona fide challenges, and that emphasizes improving broadband coverage data and maps while limiting the burdens on providers, may help to further verify the validity of broadband deployment data.[81] Alexicon, for instance, asserts that "the effectiveness of crowd sourcing is only as good as the crowd, so the Commission must adopt rules that ensure the process takes into account only legitimate concerns, provides for a simple process for addressing

[80] *See* Comments of NTCA at 12.

[81] *See, e.g.*, Comments of ACA Connects at 11; Comments of GVNW at 5; Comments of NCTA at 9-10; Comments of WTA 10 ("Engaging the public on broadband issues is beneficial; however, the Commission must be mindful that not all submitted results may be an accurate reflection of the network."). *See also* Joint Comments at 27.

any undisputed discrepancies, and allows reporting carriers to make any necessary corrections without fear of immediate reprisal."[82] NTCA appropriately recognizes that "the Commission's use of crowdsourced data – while a valuable tool – must be informed by its limitations. . . . [A] reliance on crowdsourced data could place USAC and providers in the position of chasing down whether identified gaps truly exist or are simply the result of consumer testing using a decade old computer and an improperly configured router that a consumer recently purchased on EBay."[83]

Verizon similarly cautions that "any reliance on crowdsourced data must be carefully calibrated both to promote greater accuracy and to protect providers from overwhelming burdens of sifting the wheat from the chaff," such that public feedback "should be limited to the narrow purpose of improving the accuracy of service maps."[84] Importantly, Verizon correctly emphasizes that this public feedback process is distinguishable from informal consumer complaints, and "the Commission should neither meld the two nor develop a surrogate process for public feedback that duplicates the existing informal complaint process," but instead the Commission, together with USAC, should provide "clear boundaries" between the two processes.[85] In contrast, while the State of Colorado rightly observes that crowdsourced data could be utilized by the Commission as a mechanism to validate provider-reported data, it then drifts into suggesting that the Commission employ a "nationwide speed test dataset" to "proactively" validate provider-reported data in order to identify discrepancies, and that any discrepancy the Commission identifies using such data "should be treated as a complaint."[86] The Joint Commenters urge the Commission to decline this unduly aggressive approach. Putting

[82] *See* Comments of Alexicon at 5-6.
[83] *See* Comments of NTCA at 11.
[84] *See* Comments of Verizon at 5.
[85] *Id.* at 5-6 & fn.17. *See* Comments of Joint Commenters at 27 ("the public input the Commission is seeking . . . is not 'complaints'"; the difference in terminology from "crowdsourcing" and/or a "challenge process" is meaningful).
[86] *See* Comments of State of Colorado at 8.

aside the lack of specificity regarding how the Commission would amass reliable and meaningful nationwide speed test data and acknowledging the burdens it would create for the Commission and providers alike, it also could introduce unwanted contentiousness in the normatively more collaborative public input opportunity designed to foster the goal of improving broadband mapping, when properly structured.[87]

The Commission similarly should keep in mind that its proposed crowdsourcing and challenge processes are designed to yield "input from the people who live and work in the areas that a service provider purports to serve"[88] – in other words, members of the public, either individually, or collectively through state, local, or Tribal governmental entities.[89] In this regard, commenters that suggest the challenge processes should be open or even geared to competing providers' challenges miss the mark.[90] Although the Joint Commenters do not necessarily endorse the degree of the Commission's lamentations in recent years concerning the burdens associated with provider challenge processes,[91] the Joint Commenters do recognize that such processes typically are more formal[92] and resource-intensive than the "check on . . . deployment data"[93] the Commission contemplates for its crowdsourcing challenge mechanism. As such, the Commission should reserve such provider challenge processes – if they are to be utilized at all – for contouring actual USF funding commitments based on broadband coverage data rather than

[87] *See* Comments of Joint Commenters at 27.
[88] *R&O* at ¶ 18.
[89] *See, e.g., id.* at ¶ 3.
[90] *See* Comments of WTA at 7-10, 14; Comments of GVNW at 4.
[91] *See, e.g., Connect America Fund; ETC Annual Reports and Certifications; Rural Broadband Experiments*, Report and Order and Further Notice of Proposed Rulemaking, 31 FCC Rcd 5949, 5970, ¶ 58 (2016) ("*CAF II Auction Order*") ("The [CAF] Phase II challenge process was very time-consuming and administratively burdensome for all involved.").
[92] *Cf.* Comments of WTA at 14 (contending that a "formal challenge process" would be more effective than crowdsourcing); *but cf. CAF II Auction Order*, 31 FCC Rcd at 5969-70, ¶ 57 (adopting a streamlined challenge process to establish areas eligible for the CAF II auction).
[93] *R&O* at ¶ 24.

shaping the data itself. In fact, this is the very point raised previously by NTCA and with which WTA purports to concur.[94] Therefore, if the Commission were to adopt a provider challenge process, it should be limited to a "final check" as suggested by NTCA and ostensibly supported by WTA, but otherwise the Commission should reject WTA's advocacy that such processes be incorporated as a regular part of validating broadband coverage data and improving broadband maps.

A. The Record Supports A Public Challenge Process Focused On The Outcome Of Improving Broadband Coverage Data And Maps In A Manner That Minimizes The Burdens On Providers

In our comments, the Joint Commenters urged a challenge process that emphasizes improving broadband coverage data and maps while minimizing the burdens on providers, as well as limiting USAC's role to a ministerial one.[95] The weight of the record supports these objectives and the Joint Commenters' proposals for how to achieve them.

Process Mechanics. The Joint Commenters contend that providers should not be required to respond to each challenge.[96] The bulk of the comments on this issue concur.[97] Connected Nation, for instance, maintains that "it would be unreasonable and impractical for

[94] *See* Comments of WTA at 14 (quoting Letter from Michael R. Romano, Senior Vice President – Industry Affairs & Business Development, NTCA, to Marlene H. Dortch, Secretary, FCC, WC Docket Nos. 19-126, 10-90, 19-195, 11-10, at 2 (July 23, 2019) ("NTCA July 23, 2019 *Ex Parte*"). In the NTCA July 23, 2019 *Ex Parte*, NTCA asked the Commission to clarify that crowdsourcing will be "considered as a complement to, and will not be considered a substitute for, robust and meaningful evidentiary challenge processes *that should be used in considering new awards of universal service support or the denial of universal service support*." NTCA July 23, 2019 *Ex Parte* at 2 (emphasis added). Notably, NTCA supported its request by maintaining that "the need for and scope of challenges should decrease considerably and thus reduce materially any burdens associated with such a process" in light of implementation of the data and mapping improvements adopted in the *R&O* and proposed in the *2nd FNPRM*, *id.* at 2-3, further accentuating NTCA's contemplation that provider challenge processes would only be used "as a 'final check' at such time as the Commission is proposing to use the maps for funding or other policy decisions." NTCA Comments at 10; *see also* NCTA Comments at 12-15 (delineating a "formal evidence-based challenge process" that would take place in advance of any distribution of funding from a new support mechanism).

[95] *See* Comments of Joint Commenters at 28.

[96] *See id.* at 29.

[97] *See, e.g.*, Comments of Verizon at 6; Comments of GVNW at 5-6; Comments of WTA at 13.

service providers to be required to respond to every complaint that is filed,"[98] and NTCA elaborates that such a requirement "would be highly burdensome for providers and the Commission itself, could overwhelm USAC quickly, and would likely provide little useful data in terms of mapping adjustments."[99] Alexicon specifically – and astutely – contrasts this approach from the informal complaint process, where each complaint is handled separately.[100] Although Next Century Cities et al. support this approach for smaller providers, they assert that larger providers should be subject to more stringent response requirements "because they have more resources to minimize errors and implement remedies."[101] What this argument ignores, however, is that larger providers are likely to provide more broadband connections and therefore be subject to more challenges, so the burdens of responding to each and every challenge likely would be proportionately as acute for them as for smaller providers.[102]

Like the Joint Commenters, the majority of commenters on the issue of timing of data corrections support the view that providers should be permitted to correct any inaccurate data at their next filing opportunity.[103] As GeoLinks describes, broadband reporting efforts are time and resource intensive, but synchronizing corrections with other reporting requirements at a set interval should not require providers to allocate more resources than they already do for these ongoing filings.[104] NCTA further declares that "[i]t is not practical or useful to have the deployment map in a constant state of flux or to impose a perpetual filing obligation on

[98] *See* Comments of Connected Nation at 7.
[99] *See* Comments of NTCA at 11.
[100] *See* Comments of Alexicon at 7.
[101] *See* Comments of Next Century Cities et al. at 6.
[102] *See* Comments of Joint Commenters at 29 ("such a procedure would be no less onerous for larger providers").
[103] *See, e.g.*, Comments of Alexicon at 7; Comments of ACA at 13 fn.38; Comments of Verizon at 7.
[104] *See* Comments of GeoLinks at 7; *see also* Comments of GVNW at 6 ("any additional updates by a carrier to its broadband service reporting following crowdsourcing input more than semiannually would be overly burdensome on carriers"); Comments of Joint Commenters at 29-30.

providers," thus rendering biannual updates a better approach.[105] The Joint Commenters concur. Although the Joint Commenters appreciate the predictability of Connected Nation's advocated approach where challenges are to be received, analyzed, and responded to as appropriate with updates within certain defined windows, the "chaos" Connected Nation avers will ensue in the absence of its approach[106] actually will be promoted by it, insofar as USAC, the Commission, and providers are bound to experience filing and processing crunches within these windows.[107]

Therefore, as the Joint Commenters expressed, the semi-annual update approach best balances the need for data corrections against the burdens to which providers otherwise would be subject with an unbounded or more frequent data update requirement.[108] In this regard, the Commission should reject suggestions that updates be made within a week[109] or within 60 days.[110]

On the issue of whether the Commission should require the provider to backfile earlier reports where the challenge process determines the coverage data are incorrect join the Joint Commenters' opposition to such a requirement.[111] GeoLinks "sees no value in resubmitting old data that may be outdated anyway," and reasons that to require such submission "could double or triple the work required for no actual benefit to the Commission's mapping efforts."[112] ACA similarly maintains that "the Commission is most likely to capture the benefit of any correction

[105] *See* Comments of NCTA at 16.
[106] *See* Comments of Connected Nation at 8.
[107] Although Connected Nation itself does not specify a duration for such windows, the State of Colorado recommends that they not exceed 45 days. *See* Comments of State of Colorado at 8. This proposal accentuates the Joint Commenters' viewpoint that they will cause, rather than alleviate, chaos.
[108] *See* Comments of Joint Commenters at 29-30. Connected Nation also allows that undisputed challenges should be corrected on the provider's next filing. *See* Comments of Connected Nation at 7.
[109] *See* Comments of WTA at 13.
[110] *See* Comments of ACA at 13 fn.38. While ACA Connects supports a "presumption" that updates should be biannual, it also recommends updates within 60 days "where there is a critical mass of complaints indicating a material and immediate concern regarding data accuracy." *Id.* For the reasons discussed above, however, this would not be enough time and would be unnecessarily burdensome.
[111] *See* Comments of Joint Commenters at 30 fn.96.
[112] *See* Comments of GeoLinks at 4-5.

in awarding universal [service] support going forward," rendering the time and expense required to amend prior filings not worth it.[113] For all these reasons, the Commission should refrain from adopting such a requirement.

USAC Role. In their comments, the Joint Commenters declare that the Commission must limit USAC's substantive role in the challenge process by clarifying that USAC will not engage in resolving, and has no authority to resolve, challenge process disputes.[114] Of the few other commenters that address this issue, two express a comparable lack of equivocation regarding the limits of USAC's substantive role. Verizon states that USAC is "ill-suited to overseeing more than a straightforward electronic administrative process;"[115] ACA proclaims that "in no event should USAC be placed in the position of determining how to address conflicting claims, let alone adjudicating them. USAC has no experience dealing with these issues; these are tasks for the Commission."[116] The Joint Commenters could not agree more; USAC will have its hands full managing the filing process, maps, systems, and reporting. It is therefore difficult for the Joint Commenters to comprehend NCTA's apparent contemplation of a role for USAC staff in resolving disputes as part of NCTA's suggested evidence-based challenge process to occur in advance of any distribution of funding from a new support mechanism.[117]

In sum, the Commission should heed Commissioner O'Rielly's view on this matter: "we should take great pains to ensure that USAC's role in our mapping effort is purely ministerial

[113] *See* Comments of ACA at 13 n.37. *See also* Comments of NCTA at 17 (undue burden to providers and Commission staff).
[114] *See* Comments of Joint Commenters at 31, 33.
[115] *See* Comments of Verizon at 7.
[116] *See* Comments of ACA at 13 fn.39.
[117] *See* Comments of NCTA at 13.

and avoid USAC's inappropriate assumption of an adjudicatory role in any challenge process we adopt."[118]

Evidentiary Standard. In their comments, the Joint Commenters promote a "clear and convincing" evidence standard for resolution of challenges, with the burden of proof residing with the challenger.[119] Few commenters address the applicable evidentiary standard for the public challenge process. WTA agrees for similar reasons with the Joint Commenters that a clear and convincing evidence standard should apply, because it "strikes the balance between being rigorous enough but not overly stringent."[120] NCTA, on the other hand, adopts a contrary position, namely, that its proposed informal feedback process should "place no substantive requirements on the party challenging the reported coverage."[121] Foremost among many reasons this stance is ill-advised is that it flies in the face of the Commission's avowed goal "to avoid bad-faith or malicious challenges to coverage data,"[122] and will inevitably lead to profound wastefulness of good staff investigating bad challenges among the bona fide ones.[123]

Although no commenter aside from the Joint Commenters directly addresses the burden of proof for the public challenge process, both NCTA and NTCA touch upon it with respect to their contemplated "final check" more formal challenge processes. In this context, NCTA tacitly concurs with the Joint Commenters in advocating that substantive evidentiary requirements

[118] Michael O'Rielly, Commissioner, FCC, Remarks Before the FCBA Young Lawyers Committee Universal Service Fund Seminar 3 (Oct. 2, 2019).
[119] *See* Comments of Joint Commenters at 33-34.
[120] *See* Comments of WTA at 13-14. GVNW likewise advocates for a clear and convincing evidence standard, albeit in the context of a provider challenge process, *see* Comments of GVNW at 4, which, as discussed above, if the Commission conducts at all should only be as a "final check" where the Commission is proposing to use the broadband maps for funding or other policy decisions.
[121] *See* Comments of NCTA at 15.
[122] *2nd FNPRM* at ¶ 97.
[123] *See* Comments of NCTA at 15.

should be placed on the party submitting the challenge.[124] NTCA, however, inexplicably advocates that parties wishing to challenge broadband coverage maps submit information such as consumer surveys or other "preliminary indicators" that the challenged provider does not, in fact, operate throughout the area that it claims at the performance levels it claims. NTCA adds that the challenged provider should then respond with technical and operational information that provides clear and convincing evidence that challengers' claims are erroneous.[125] Not only does this hint at some provision for bulk challenges by non-governmental entities – which the Joint Commenters oppose[126] it also, by its own terms, would accept an ill-defined "preliminary" showing to shift the burden of proof to providers. The Commission's challenge processes – whether less-formal crowdsourcing feedback or more formal provider-initiated processes – command more for myriad reasons, including realizing the Commission's goals to "prevent malicious or unreliable filings, including automated mass filings."[127]

NCTA correctly admonishes the Commission to be particularly cautious regarding the type of speed test results it considers in validating the provider's coverage claim.[128] Given the established issues, it argues that online speed test data should not be considered sufficient evidence to sustain a challenge.[129] The Joint Commenters agree. NCTA elaborates that online speed tests, such as those conducted over home Wi-Fi networks, that "do not control for factors outside the control of the provider should not be used for the purpose of assessing the validity of

[124] *See id.* at 12. While again in the context of an envisioned more formal challenge process than the public one addressed by the Joint Commenters, like the Joint Commenters NCTA maintains that a challenging party should be required to certify to the accuracy of the data they are submitting. *See id.*
[125] *See* Comments of NTCA at 9-10.
[126] *See infra* Sec. IV.C.
[127] *R&O* at ¶ 20.
[128] *See* Comments of NCTA at 10-13.
[129] *See id.* at 13.

a provider's reported deployment."[130] The Joint Commenters also agree with NCTA stipulations that even if the speed test does appropriately measure the provider's broadband performance, such test results should "be considered relevant only for the location at which the speed test was conducted…only if it can be demonstrated that the results are specific to the broadband provider and service tier being challenged," and only where there is a statistically valid pattern of under-performance.[131] These criteria will help to ensure that challenges are bona fide.[132]

Instances Where Provider is Denied Access to Building. In their comments, the Joint Commenters contend that the Commission should consider a building "served" by the provider where the provider would be able to serve the building but for the building owner's refusal to grant the provider access to the building.[133] Only one other commenter, Next Century Cities et al., addresses this issue. It takes the opposite position, asserting that buildings that do not allow a provider to offer service currently should not be included in the provider's filing of where its services are available, although the provider "should be free to submit data showing that it would like to offer service there and is currently prevented from doing so."[134] Ironically, in the succeeding paragraph of its comments in the context of a different issue, Next Century Cities et al. describes precisely why its position on this issue is wrong. It correctly observes that "broadband availability data is being collected in large part for policymakers and other decision-

[130] *Id.* at 10-11. *See also* Comments of WTA at 11 ("the overriding problem with crowdsourcing is that it seeks to test the entire Internet experience of the customer, which is impacted by multiple factors, and especially in the case of nearly all RLECs, not just the network of the provider").
[131] *See* Comments of NCTA at 12.
[132] While the Joint Commenters support all of these stipulations, they do not endorse NCTA's categorical condemnation of the reliability of software-based speed tests and other solutions, which the Joint Commenters have promoted for use in broadband performance testing. *See* Letter from Michael J. Jacobs et al., Vice President, Regulatory Affairs, ITTA, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 10-90, DA 18-710, at 9 (Apr. 10, 2019); *but see* Comments of NCTA at 11 (enumerating several alleged disadvantages of software solutions implemented on a consumer's computer connected to the Internet).
[133] *See* Comments of Joint Commenters at 35.
[134] *See* Comments of Next Century Cities et al. at 4-5.

makers to better understand where Internet access is sufficient and where it is not."[135] As the Joint Commenters maintain, it is precisely for this reason that the Commission should consider the building "served" by the provider – namely, that not only would the provider be able to meet the provisioning-within-10-days standard if afforded access to the building, but it is probable that a denial of access would be due to another provider already serving the building.[136]

B. The Record Militates Towards Allowing Only Governmental/Tribal Entities Being Eligible To Submit Bulk Challenges

In our comments, the Joint Commenters request that the ability to submit bulk challenge data be strictly limited to state, local, and Tribal governmental entities.[137] Several comments consistent with the Joint Commenters' show why this position is compelling. As Alexicon delineates, such governmental entities will "(1) have the most intelligence on the ground as to the accuracy of reported data and (2) more than likely have a working relationship with reporting carriers within their jurisdiction."[138] Similarly, Next Century Cities et al. describes how such entities "have strong incentives to ensure the maps are correct in the course of their work and they often receive complaints from residents and businesses in areas that lack decent access, giving them unique insight into accuracy."[139] Combined with the *2nd FNPRM*'s stipulation that bulk filings by such entities should be permitted where they already have investigated the bona fides of the data,[140] as well as the Commission's objective to avoid bad-faith or malicious

[135] *Id.* at 5.
[136] *See* Comments of Joint Commenters at 35. The Joint Commenters further noted that there is a pending proceeding exploring ways to facilitate greater consumer choice of broadband and other communications services for Americans living and working in multiple tenant environments, the outcome of which has the potential to promote providers' access to buildings from which they are currently foreclosed from providing service. *See id.* at n.120. The comment cycle on the notice of proposed rulemaking in that proceeding just closed a week ago.
[137] *See id.* at 35-36.
[138] *See* Comments of Alexicon at 6.
[139] *See* Comments of Next Century Cities et al. at 6.
[140] *See 2nd FNPRM* at ¶ 97.

challenges that could easily be facilitated *en masse* via an automated tool or bot,[141] the rationales elucidated by Alexicon and Next Century Cities et al. illustrate why the ability to submit bulk challenge data is appropriate for such governmental entities to the exclusion of other would-be bulk filers.

Although the Joint Commenters would not object to Next Century Cities et al.'s suggestions that such submissions should be accorded higher processing priority by USAC,[142] the Joint Commenters cannot countenance its additional call for such submissions to be "presumed accurate,"[143] as the Joint Commenters explained in their comments why the Commission must still assign the burden of proof to the challenging entities.[144] Further, the Commission must not heed the requests of Next Century Cities et al. and Connected Nation to expand eligibility to submit bulk filings to "foundations or other entities that we may not predict immediately,"[145] or "qualified nonprofit organizations."[146] Neither commenter provides any justification for how such entities would satisfy the Commission's objectives in considering the allowance of bulk filings. In fact, to the extent foundations and non-profits often approach their missions with certain preexisting viewpoints, they would tend to be less prone to dispassionately investigate challenge data prior to submission in the same manner that a governmental entity would be apt to do, and they also are less likely than governmental entities to possess comparable intelligence on the ground and collaborative working relationships with reporting providers and members of the public alike. Moreover, they are less likely than many

[141] *See id.*
[142] *See* Comments of Next Century Cities et al. at 7.
[143] *Id.*
[144] *See* Comments of Joint Commenters at 36.
[145] *See* Comments of Next Century Cities et al. at 7.
[146] *See* Comments of Connected Nation at 7.

governmental entities to have the personnel resources appropriate to properly scrutinize challenge data.[147]

Finally, while, as discussed above, the Joint Commenters endorse NCTA's proposed evidentiary standards related to speed tests, and find commonality with NCTA on other evidentiary standards at least related to NCTA's contemplated formal challenge process, the Joint Commenters still do not find these standards sufficient to form the basis for permitting bulk submissions by entities other than governmental entities.[148] While adding appropriate rigor to the showings required of challengers, such evidentiary standards simply are not sufficient to counter the very real prospect of malicious or unreliable automated mass filings that could be facilitated by casting too wide a net for bulk filing eligibility.[149]

C. The Commission Should Incorporate The Suggestions Of Several Commenters Regarding The Data USAC Should Collect For The Challenge Process

In our comments, the Joint Commenters support the *2nd FNPRM*'s proposals with respect to the information USAC should collect from entities challenging broadband coverage data, with the exception of the collection of geocoordinate data.[150] Numerous commenters propose additional data that USAC should collect from challengers, and the Joint Commenters support the majority of them. The California PUC, for instance, suggests that USAC collect any correspondence between the challenger and the provider in the event the challenger asserts that

[147] Although the California PUC does not espouse a position on this issue in its comments, its comments are illustrative as to how a governmental entity may validate the details of wireline ISP broadband deployment data. *See* Comments of CPUC at 16-17. Among the steps it describes are that "[a]dditional validation involves comparing presumed loop lengths with those that can support various xDSL technologies." *Id.* at 17. In other words, aside from the on-the-ground-intelligence and working relationship attributes described above that distinguish governmental entities from foundations and non-profits, many also may enjoy the benefits of personnel with engineering or technical expertise that is far less likely to be found within the ranks of foundation or non-profit staffs.

[148] *But see* Comments of NCTA at 13 ("bulk submissions should be permitted subject to the same evidentiary standards noted above").

[149] *Cf. R&O* at ¶ 20 (directing USAC to develop mechanisms to prevent malicious or unreliable filings, including automated mass filings).

[150] *See* Comments of Joint Commenters at 37-38 (citing *2nd FNPRM* at ¶ 91).

the provider denied its request for service.[151] In addition, presumably in the interest of helping to thwart malicious or unreliable challenges, ACA recommends that the challenger be required to provide proof of residence.[152]

Similar to NCTA's concerns discussed above regarding online speed tests, WTA expresses justifiable apprehension regarding which customers would have standing to submit a test, presenting as an example a customer that subscribes to a service tier that is less than the mapped service available to the customer.[153] To address these concerns, several commenters furnish meritorious suggestions for bolstering required evidence of speeds received. The California PUC proposes that USAC collect details about the challenger's purchased service tier with associated speeds.[154] ACA advises that challengers disputing speed performance "provide evidence they have service from the provider, such as by providing a recent bill, have run industry-standard tests from their modem to the network at peak and other times over a period of a week or longer and should identify the application they used to conduct the test."[155] The North Carolina Department of Information Technology Broadband Infrastructure Office prescribes that speed test results include an average of three tests taken on different days, at different times over the course of seven days.[156] Collectively, these recommendations should help to inform the clear and convincing evidence standard the Commission should apply to challenges, and they should also assist in promoting the Commission's objective of inhibiting bad-faith or malicious challenges. It is also important to note that the existing Sam Knows testing has a role to play here and can provide a safe harbor for participating carriers from speed test challenges.

[151] *See* Comments of CPUC at 13.
[152] *See* Comments of ACA at 12.
[153] *See* Comments of WTA at 11.
[154] *See* Comments of CPUC at 13.
[155] *See* Comments of ACA at 12.
[156] *See* Comments of NCDIT Broadband Infrastructure Office at 2.

The couple of comments that specifically address geocoordinate data are consistent with the Joint Commenters' views that USAC should not collect such data. ACA expresses that collection of such information should not be mandatory.[157] Although the California PUC in one place suggests that USAC collect "specific coordinate point location information,"[158] the California PUC subsequently acknowledges that "there are sometimes issues with geocoding customer-provided addresses," and that "[a]fter implementation of the nationwide fabric of serviceable locations . . . matching a consumer-entered address to a serviceable location should fix any geocoding problems that may exist."[159]

Finally, a couple of commenters provide recommendations that the Commission should deny. As discussed above, the State of Colorado's call for the Commission to "proactively . . . utilize a nationwide speed test dataset"[160] raises more questions than it answers. And the assertion by New America's Open Technology Institute and Public Knowledge that providers "should not be allowed to know who complained about their data"[161] is patently absurd. The service address is a fundamental component of any challenge, and it would be simple for a provider to determine who is domiciled at the address. The suggestion also would undermine the accountability the Commission seeks to help prevent malicious challenges.

V. THE RECORD SUPPORTS SUNSETTING FORM 477 ONCE THE FABRIC PORTAL IS ESTABLISHED

In our Comments, the Joint Commenters agreed that the new data collection "will largely displace the Form 477 process,"[162] and recommended that the Commission sunset Form 477 once "the public, providers, the Commission and USAC staff have a sufficient opportunity to

[157] *See* Comments of ACA at 12 fn.33.
[158] *See* Comments of CPUC at 13.
[159] *Id.* at 14 n.20.
[160] *See* Comments of State of Colorado at 8.
[161] *See* Comments of New America's Open Technology Institute and Public Knowledge at 5 fn.10.
[162] *2nd FNPRM* at ¶ 135.

transition to the new reporting and challenge process."[163] We further explained that requiring reporting of facilities-based voice services has "outlived its utility" given that universal service decisions are now made on the basis of broadband availability.[164]

The record overwhelmingly demonstrates near-universal agreement that requiring Form 477 reporting will lack purpose once the new data collection is in place. United States Cellular Corporation explains that "[b]ecause of the deficiencies of Form 477 data, and because of the likelihood that the DODC mechanism will be effective in identifying broadband coverage gaps, the Commission should transition to the new DODC mechanism once it has been successfully rolled out."[165] Likewise, the National Rural Electric Cooperative Association agrees that Form 477 should be phased out: "Use of the FCC Form 477 should continue until the functionality of the Digital Opportunity Data Collection has been proven. However, once this process has proven effective, the FCC Form 477 will be obsolete."[166] ACA similarly observes that "after the Commission has access to the DODC data for a reasonable period, the Form 477 deployment data will diminish in value, outweighed by the data collection costs, and thus it should be shut down."[167] Alaska Communications correctly observed that "[c]overage polygons will be more detailed than the Form 477 census block data, so there is no need to collect both sets of information."[168]

[163] *See* Comments of Joint Commenters at 38. *See also* Comments of CPUC at 19 (urging continued reporting census block reporting on From 477, and noting Commission's expectation that the new data collection process "in the long run, will replace Form 477").
[164] *See* Comments of Joint Commenters at 38.
[165] *See* Comments of United States Cellular Corporation at 11. *See also* Comments of Alexicon at 2 (Form 477 "has outlived its usefulness").
[166] *See* Comments of at 6.
[167] *See* Comments of ACA at 18-19. *See also* Comments of GVNW at 7 ("carriers should continue to report the data, until such time when the new collection portal and the polygon-based data reporting has shown provable reliability and has been thoroughly tested.").
[168] *See* Comments of Alaska Communications at 19. The City of New York "does not recommend retiring Form 477 data until the Commission's new data collection is well-established" and that historical "Form 477 data should remain available to the public, whether or not Form 477 is sunset." Comments of

NCTA proposes that there should be a one-year period where providers would be required to both file Form 477 and report polygon shapefiles into the new portal, after which time Form 477 would be phased out.[169] It suggests that "the Commission will be able to do year-over year comparisons of broadband availability and there should no longer be any need to track deployment through census block reporting."[170] ACA suggests a two-year overlap of Form 477 and the new data collection as a "reasonable period."[171] The Joint Commenters believe that one year (i.e., two Form 477 reporting periods) will be a sufficient time frame for the Commission and stakeholders to ensure that the Fabric and the portal have been implemented correctly, and that the burdens on broadband providers of extending that transition period will be outweighed by the many virtues of the new Fabric reporting process.

Only one commenter, Free Press, argues in favor of retaining Form 477 indefinitely as a means to continue dissemination of Census Block level data.[172] The Joint Commenters strongly oppose this suggestion. First, Free Press never explains why continuing to assess broadband availability at the Census Block level is so important, or why the more granular and accurate location-based information that is the linchpin of the Fabric is not a preferable substitute. As a frequent critic of the Commission's broadband reporting process, one would expect Free Press to embrace the more detailed process and realize its potential. Second, Free Press myopically states that "[w]e see no reason why ISPs should not be required to continue to provide this list of Census Blocks, which the Commission can continue to release publicly."[173] One very good reason that Free Press chooses to ignore is the burdens that requiring two separate data reporting

City of New York at 5, 6. *See also* Comments of West Virginia Broadband Enhancement Council at 5.
169 *See* Comments of NCTA at 25.
170 *Id.*
171 *See* Comments of ACA at 19.
172 *See* Comments of Free Press at 22-24.
173 *Id.* at 23.

systems will have on broadband providers, especially small providers that may have only a few employees. If Free Press (and others) are so concerned about the accuracy of broadband mapping, it would seem logical that they would want to make it easier and less burdensome for providers to submit more detailed information. Free Press' proposal to require duplicate reporting would do just the opposite. Third, to the extent Free Press desires to use Census-based geographies for "demographic and economic analysis of broadband deployment,"[174] it can simply add a Census Block layer to the Fabric. Presumably, that's what the Commission and USAC will do, to the extent they desire to continue to analyze data in that fashion. And, the more granular and accurate data will likely yield more exacting information on where the digital divide remains.[175] But maintaining unnecessary and duplicative, but inferior reporting burdens on broadband providers simply to satisfy Free Press' desire for a conveniently packaged "valuable demography tool" strikes the wrong balance.[176]

In sum, the record suggests that sunsetting Form 477 one year after the Fabric is established is a reasonable transition period.

VI. CONCLUSION

The Commission should promptly order the creation of the nationwide Fabric which will vastly improve the accuracy and granularity of broadband availability and should require

[174] *Id.* at 24.
[175] New America's Open Technology Institute and Public Knowledge refer to a 2016 Free Press report about the racial digital divide. *See* Comments of New America's Open Technology Institute and Public Knowledge at 7. The report cites Form 477 as a "rich source[s] of raw information concerning broadband adoption and deployment" with "minor issues." S. Derek Turner, "Digital Denied: The Impact of Systemic Racial Discrimination on Home-Internet Adoption," Free Press (Dec. 2016), *available at* https://www.freepress.net/sites/default/files/legacypolicy/digital_denied_free_press_report_december_2016.pdf (last visited Sept. 26, 2019) at 19. By using more granular data for its projects, Free Press and others could perhaps develop a more precise analysis of the actual locations – not Census Blocks – where broadband is not available.
[176] *See* Comments of Free Press at 24.

broadband availability reporting on top of the Fabric. The Fabric should be developed in parallel with the creation of a polygon-based portal. Coupled with visual management and the opportunity for public review of the data submitted to USAC, these measures will enable the Commission and other federal and state agencies to better direct support to areas that lack broadband and improve transparency with the public. As new reporting requirements are established, it is critical to ensure that the new data reporting and collection process is carefully crafted to balance benefits with burdens.

Respectfully submitted,

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